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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,451	09/22/2003	Gregory Kent Williams	229278	2349

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EXAMINER

HOEKSTRA, JEFFREY GERBEN

ART UNIT	PAPER NUMBER
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3736

DATE MAILED: 07/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/668,451	Applicant(s) WILLIAMS ET AL.	
	Examiner Jeffrey G. Hoekstra	Art Unit 3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Notice of Amendment

1. In response to the amendment filed on 05/19/2006, amended claims 1, 4, 7, 8, 12, 14, and 17 are acknowledged. The current rejections of the claims 1-20 are *withdrawn*. The following new and reiterated grounds of rejection are set forth:

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-4, 7-9, 12-14, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferrera (US 6,168,570) in view of Osadchy et al (US 6,266,551).

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5. For claims 1 and 12, Ferrera discloses a sensor catheter comprising: a catheter 22 capable of coupling to a processing unit, a distally disposed sensor assembly (column 9 lines 39-45), and a plurality of wires 12,16 capable of coupling to the sensor assembly, capable of carrying control signals, extending the length of the catheter, and further comprising first and second bundles of wires twisted together (column 8 lines 39-43). For claims 2-4, 7-9, 13-14, and 17-19, Ferrera discloses a sensor catheter comprising first, second, and third wire bundles, each bundle having multiple strands each (column 8 lines 39-43) wound together and disposed within an outer sleeve 34. It is noted that disposing twisted wire bundles within a sheath serves to shield and thereby reduce electromagnetic interference.

6. Ferrera discloses the claimed catheter sensor as broadly as structurally claimed except explicitly stating (a) the wires are wound to reduce electromagnetic interference and/or cross talk between wires and wire bundles and (b) the wire bundles are bi-directionally operative signal paths. Osadchy teaches a sensor catheter comprising winding pairs of wires (column 11 lines 34-49) to reduce electromagnetic interference and effectively operative as a bi-directional signal path (e.g. transmitting and receiving data, column 2 lines 43-63, and column 3 lines 23-30). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the sensor catheter as taught by Osadchy, with Ferrera for the purpose of increasing the efficacy of a sensing intravascular device to maintain a high signal-to-noise ratio, thus reducing cross-talk between wiring couples and reducing electromagnetic interference.

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7. Claims 5-6, 9-10, 15-16, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferrera in view of Danisch et al (US 6,563,107). Ferrera discloses the claimed catheter sensor as broadly as structurally claimed except for the plurality of wires being twisted in a clockwise or counterclockwise manner. Danisch et al teaches a sensor catheter comprising winding wire strands in clockwise and counterclockwise directions (column 25, lines 42-46). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the sensor catheter as taught by Danisch et al, with Ferrera for the purpose of increasing the efficacy of a sensing intravascular device to maintain a high signal-to-noise ratio, thus reducing cross-talk between wiring couples and reducing electromagnetic interference.

8. With regards to claims 9-10 and 20, Ferrera discloses the claimed catheter sensor as broadly as structurally claimed except for the first and second wire bundles being wound in opposite the same directions or the first and second wire bundles being wound in the same directions and wound together in the opposite direction. Danisch et al teaches a sensor catheter comprising winding two wire bundles in opposite directions and winding them in the same direction but winding them together in the opposite direction (column 25, lines 42-46) and as best seen in Figures 30 and 34A. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the sensor catheter as taught by Danisch et al, with Ferrera for the purpose of increasing the efficacy of a sensing intravascular device to maintain a high signal-to-noise ratio, thus reducing cross-talk between wiring couples and reducing electromagnetic interference.

Response to Arguments

9. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey G. Hoekstra whose telephone number is (571)272-7232. The examiner can normally be reached on Monday through Friday, 8:00 a.m. to 5:00 p.m. EST.

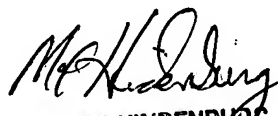
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max F. Hindenburg can be reached on (571)272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JGH

JH


MAX F. HINDENBURG
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